

# **Moving From Reaction to Prevention: Early Warning & Persistence to Graduation Tools**



# Overview

Context & Purpose

Review of Persistence to Graduation Tool

Introduce Early Warning Dashboard Tool

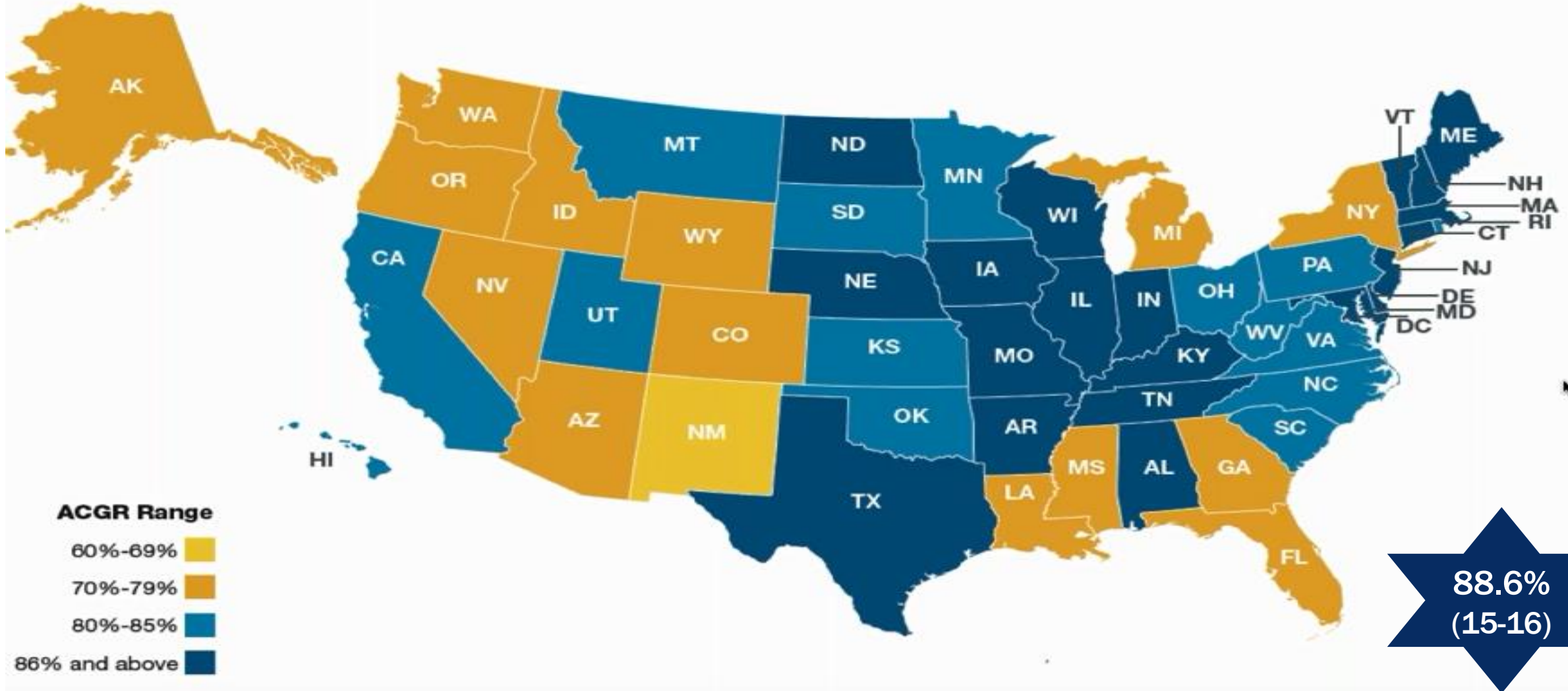
So which tool should we use?

Now What? Using the Tools for Intervention

Questions and Answers

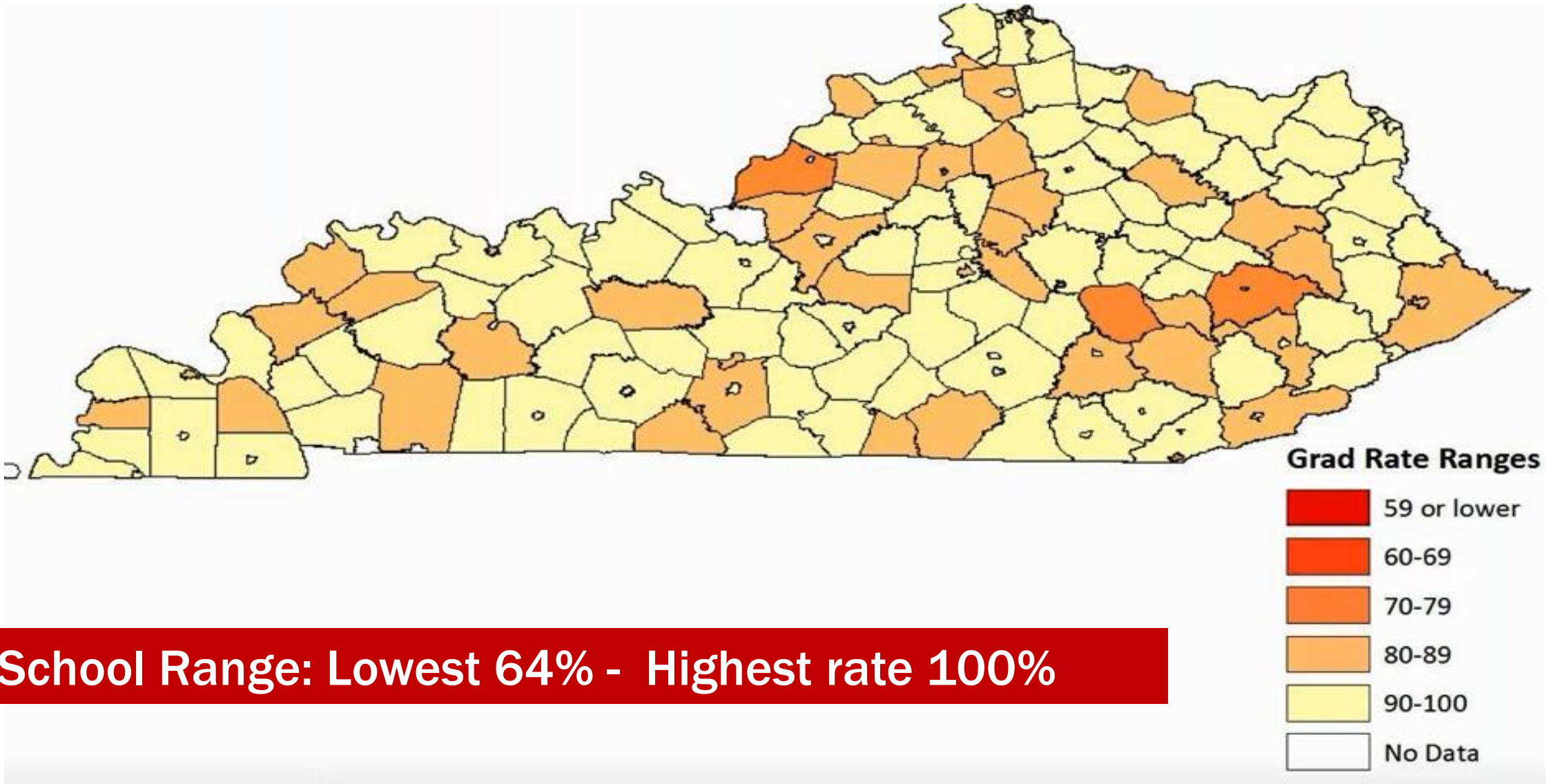
# Kentucky is A High Graduation State

High School Graduation Rate ranges by state, 2013-14



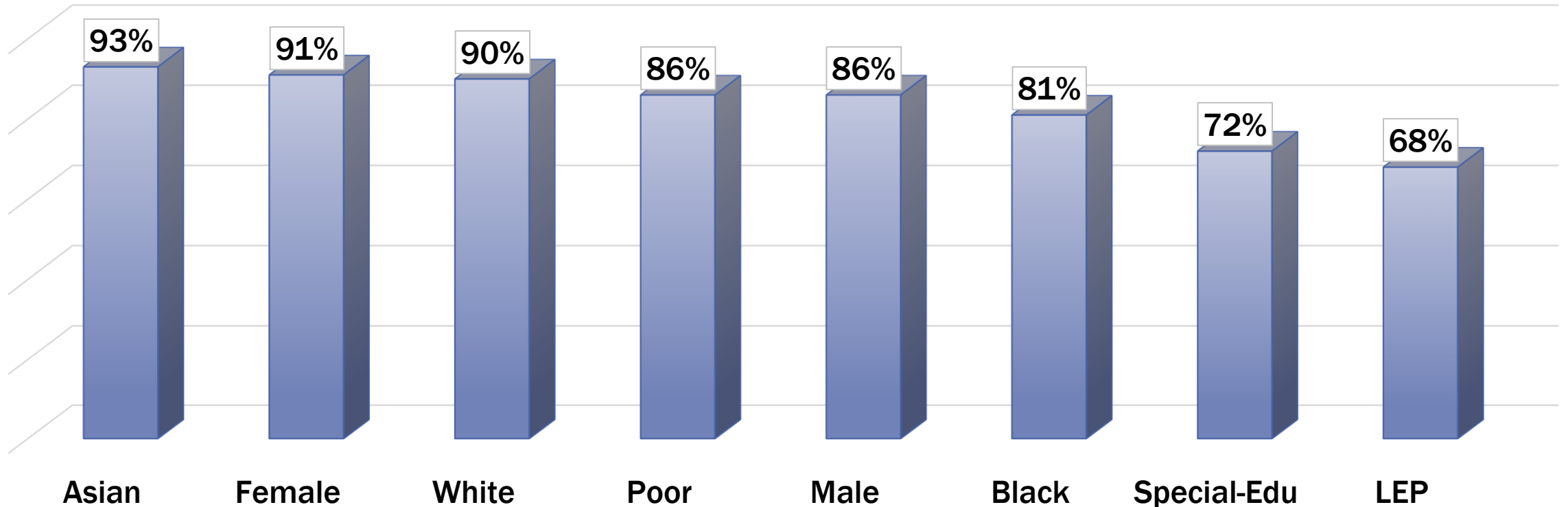
Source: Everyone Graduates Center School of Education John Hopkins University: FOR ALL KIDS

# Varies by Region, District and School



# ...And by Student Group

KY Graduation Rate by Group (15-16)



**Group Range: Lowest 10% - Highest 100%**



# Where to Find Your Data

<http://openhouse.education.ky.gov/Data>



Kentucky Department of Education  
*Our Children, Our Commonwealth*

Home School Districts School Report Card Systems Launchpad What's New Supplemental Data Feedback

## Supplemental Data

Supplemental information and historical data is provided below.

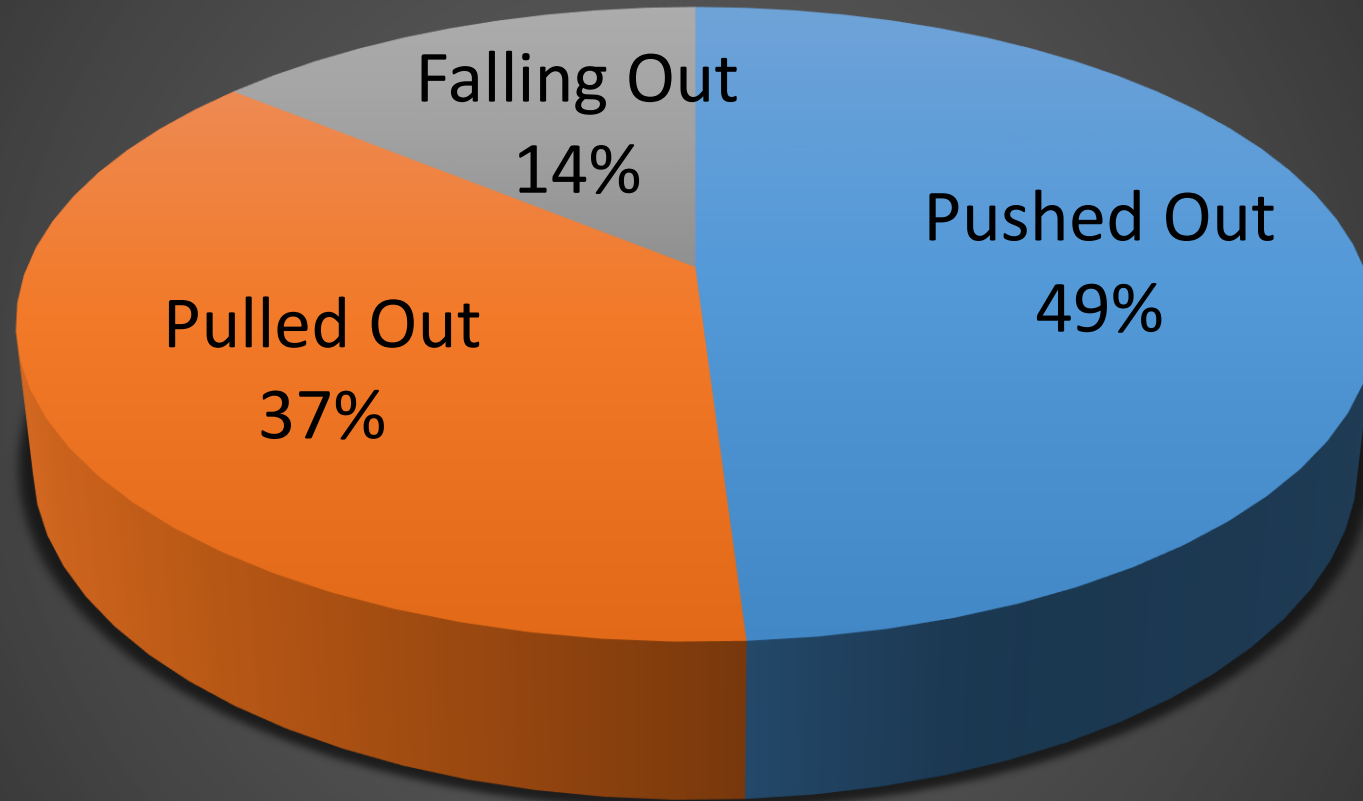
Accountability	Assessment	Kindergarten Readiness	Learning Environment
Program Review	School Finance	Student Health	Delivery Targets

# Typology of Students Who Dropout

	<i>Chronically Struggling with Academics</i>	<i>Bored with the Process</i>	<i>Disrupting School</i>	<i>Quiets</i>
Balfanz et al. (2009)	Failure to Succeed in School	Fade Outs	Push Outs	Life Events
Fortin et al. (2006)	School Adjustment Difficulty	Antisocial Covert Behavior	Social Adjustment Difficulty	Uninterested in School/Depressive
Janosz et al. (2000)	Low Achievers	Disengaged	Maladjusted	Quiets
Kronick & Hargis (1989)	Low-Achieving	High Achiever Pushouts	Low-Achiever Pushouts	Quiet Dropouts
Lessard et al. (2008)	Never Being in the Game	Dabbling in the Margins/Turning Away	Sabotaging the Journey	Living Invisibly
Menzer & Hampel (2009)	Struggler	Lackadaisical	Lackadaisical	Surprised/ Overwhelmed

Source: Bowers & Sprott (2012) *Why tenth graders fail to finish high school*

# Why Students Drop Out



*Doll, Eslami, and Walters (2013) - 7 national represented studies spanning 5 decades: Understanding Why Students Drop Out of High School, According to Their Own Reports.*



	School Related	Family Related
Push Out	Failing grades; Cannot keep up	
	Missed too many days	
	Suspended	
	Not getting along with teachers	
Pulled Out		Had to support and care for family member(s)
		Had to get a job (financial/basic needs)
		Was pregnant
Falling Out	Did not like school/ not engaged	
	Did not feel a sense of belonging	
	Changed schools and did not feel welcomed/ supported	

*Doll, Eslami, and Walters (2013) - 7 national represented studies spanning 5 decades: Understanding Why Students Drop Out of High School, According to Their Own Reports. <http://dropoutprevention.org/resources/statistics/quick-facts/why-students-drop-out/>*

# *PBS News hour* clip from YouTube

<https://www.youtube.com/watch?v=Dr7dvjPy5dw>

# Purpose of Data Tools

- ▶ Help you identify students who may be off-track to be promoted to the next grade level or graduate on time.



- ▶ No better “data” tool than a consistent, authentic, caring relationship with a student!



# Persistence To Graduation (PtG) Tool



Current Usage:  
52 Districts  
October '16

# PtG Risk Score is based on Indicators (Research Based)

Uses LIVE data : Risk Score changes anytime there is a change in any indicator

## Demographics

- Over-age
- Limited English Proficient

## Attendance

- Classroom time missed

## Behavior

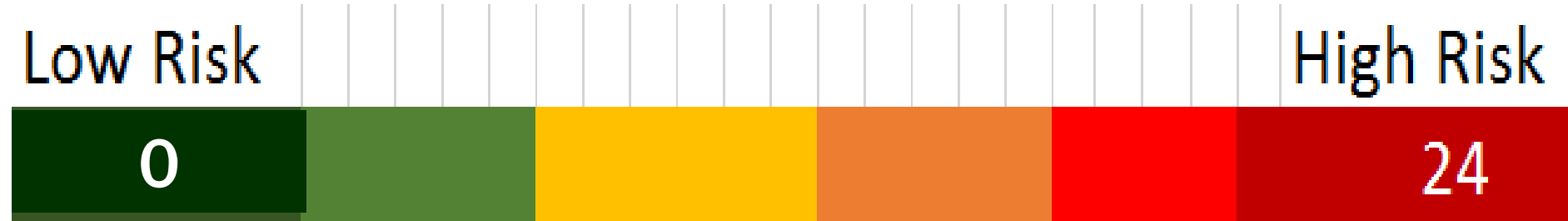
- Out of school suspensions
- In-School Removal

## Performance

- Failing Grades



# PtG Risk Score Range (risk of drop out)



## Examples...

### Demographics

- 2 years over age for the grade

### Attendance

- > 10 % of Classroom time missed

### Behavior

- 1-4 INSR

### Performance

- 10-15% Failing

Indicators Used to Calculate Risk Value Scores	Risk Point Value	Current Year	Prior Year
Demographics			
LEP	1	√	
2 years older than expected for grade level	1	√	
Attendance			
5-10% C/R time missed	1	√	√
>10% C/R time missed	2	√	√
Behavior			
1-4 INSR events (In-School Removal)	1	√	√
5+ INSR events (In-School Removal)	2	√	√
1-4 SSP3 events (Suspensions)	1	√	
5+ SSP3 events (Suspensions)	2	√	
Performance			
>10-15% Failing Term Grades	1	√	√
>15-25% Failing Term Grades	2	√	√
>25-35% Failing Term Grades	3	√	√
>35-45% Failing Term Grades	4	√	√
>45-55% Failing Term Grades	5	√	√
>55% Failing Term Grades	6	√	√

# PtG Report Formats



**PDF**

- Risk Value
- Summary of Key Indicators



**CSV**

- Indicator details
- Additional data points



**Only run reports outside of school hours and be patient, it can take a while to run.**

# PtG PDF report

- ▶ Name, grade, risk value overall and for each area (Behavior, attendance, grades)

## Kentucky Persistence to Graduation Report

School No	School Name	StateID	First Name	Last Name	Grade	Risk Value All Behavior YTD (Suspensions + INSR)	Risk Value Attendance YTD (Current Year)	Risk Value Performance YTD (Current Year Grades)	Total Risk Value (Include all indicators for prior/current years)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	9th Grade	0			8
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	9th Grade	0			8

# PtG CSV report

22 Columns for detailed data (indicators and additional data points)

	A	B	C	D	E	F	G	H
1	Title	School_No	School_Name	StateID	First_Name	Last_Name	Gender	Enrolled_Grade
2	PtGT	School_No	School_Name	StateID	First_Name	Last_Name	M	9th Grade
3	PtGT	School_No	School_Name	StateID	First_Name	Last_Name	M	9th Grade
4	PtGT	School_No	School_Name	StateID	First_Name	Last_Name	M	9th Grade
5	PtGT	School_No	School_Name	StateID	First_Name	Last_Name	M	5th Grade
6	PtGT	School_No	School_Name	StateID	First_Name	Last_Name	M	9th Grade
7	PtGT	School_No	School_Name	StateID	First_Name	Last_Name	M	9th Grade
8	PtGT	School_No	School_Name	StateID	First_Name	Last_Name	M	9th Grade
9	PtGT	School_No	School_Name	StateID	First_Name	Last_Name	M	9th Grade
10	PtGT	School_No	School_Name	StateID	First_Name	Last_Name	M	9th Grade

	I	J	K	L	M	N	O
1	Risk_Value	Current_Year_Absent_Days_Percentage	Prior_Year_Absent_Days_Percentage	Age_Equivalent	Age	Homeless	LEP
2	10			12.38 Y	15	N	N
3	9			6.26 Y	14	N	N
4	9						
5	7						
6	5						
7	5						
8	4						
9	4						
10							

	P	Q	R	S
1	Current_Year_Suspension_Count	Current_Year_INSR_Count	Prior_Year_INSR_Total	IEP
2	0	0	8	N
3	0	0	8	Y
4				

	T	U	V
1	Prior_Years_Failing_Grades_Count	Prior_Years_Passing_Grades_Count	Prior_Years_Failing_Percentage
2	3	1	75
3			
4			
5			
6			
7			
8			
9			
10			

	W	X	Y
1	Current_Year_Failing_Count	Current_Year_Passing_Count	Current_Year_Failing_Percentage
2			
3			
4			
5			
6			
7			
8			
9			



# DPP's Reported Usage of PtG Report

- 71% use the PDF version
- 71% run it monthly
- 67% said the tool usually or always accurately identifies students that drop out.

# PtG Tool Strengths

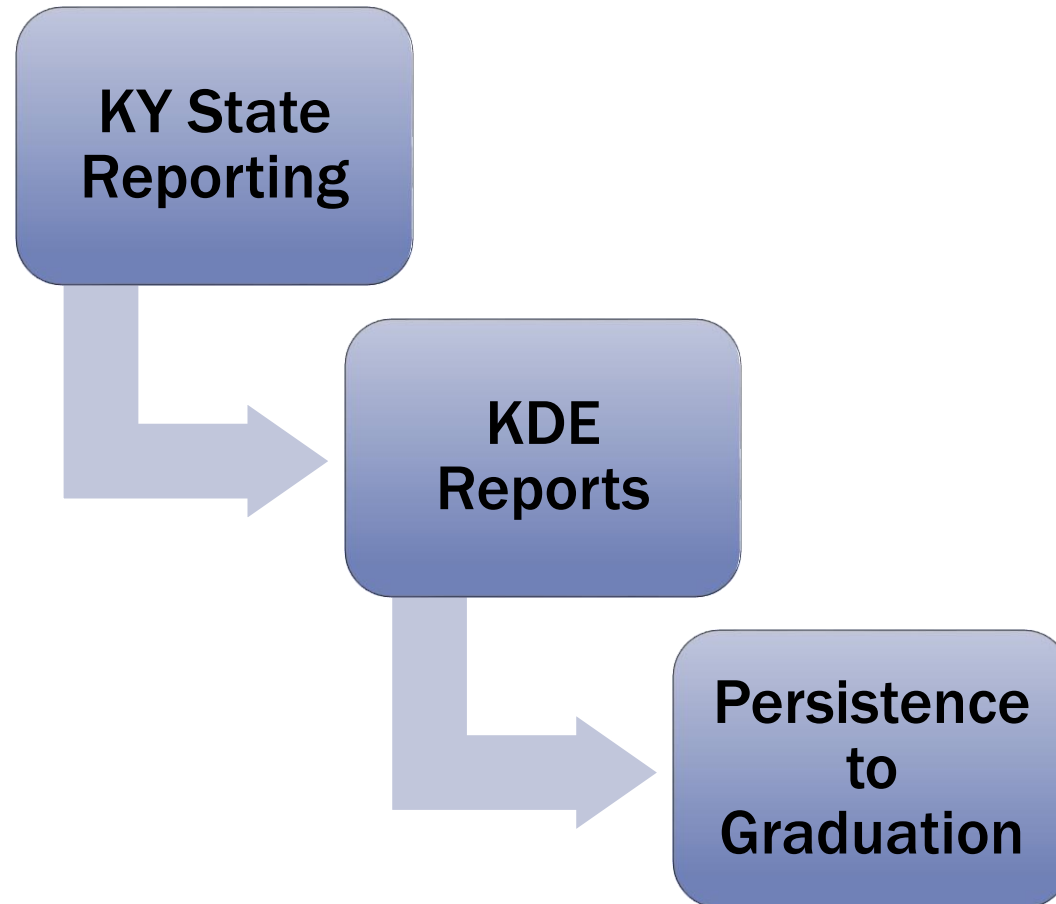
- ▶ Clearly identifies the specific high risk factors for each student
- ▶ Available for elementary, middle & high
- ▶ Risk score updates with changes in student indicators

# PtG Tool Limitations

- ▶ Does not include other available data points that may be contributing to risk
- ▶ Running the reports can take considerable time...and the CSV file may be overwhelming to some
- ▶ Can't sort within the report inside of Infinite Campus
- ▶ Only one person should run the reports and share output in a secure manner with others.

# How to Get to the PtG Report

## Infinite Campus Path:





# Early Warning Tool

**Why another tool?**



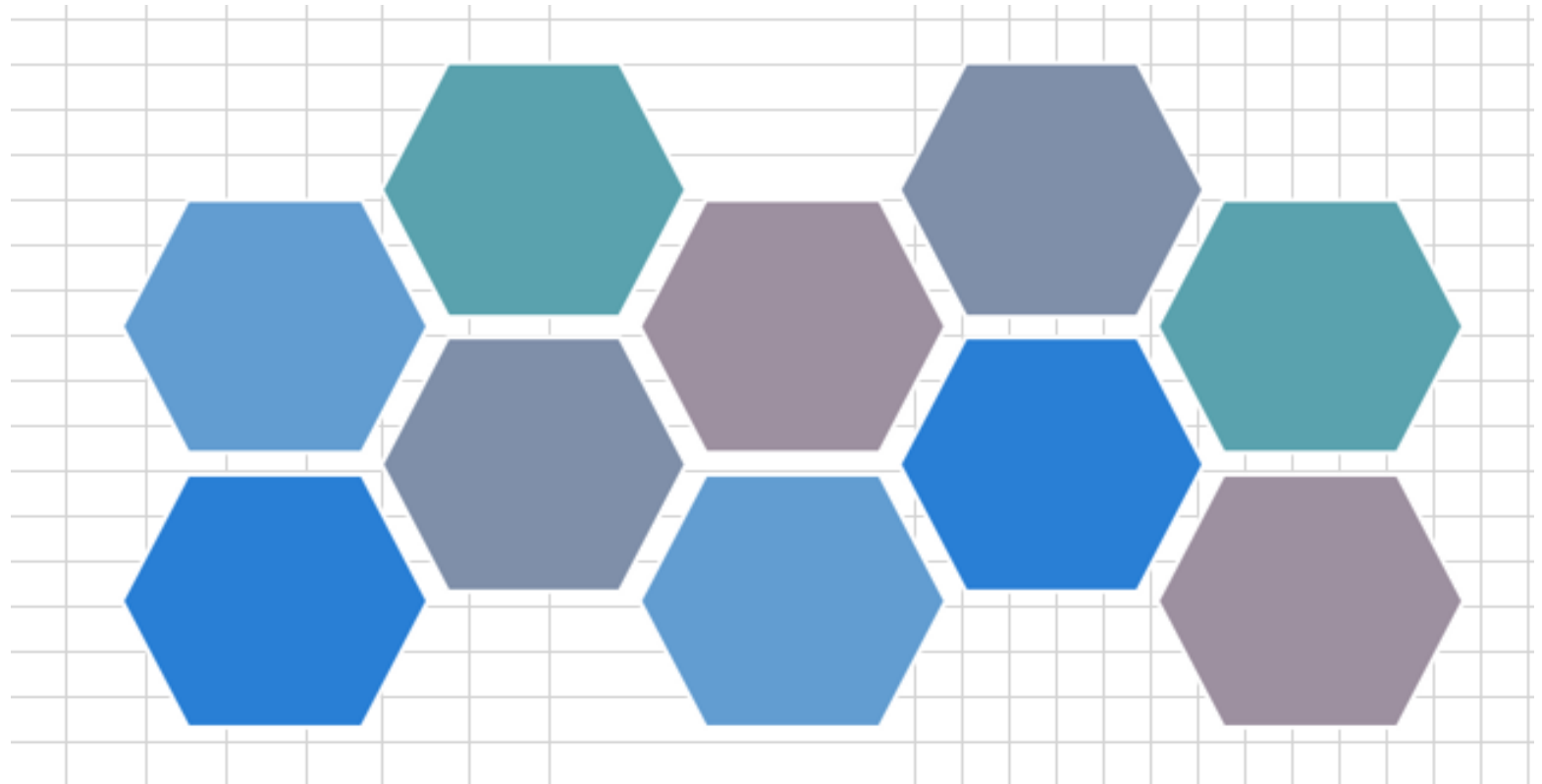
# Early Warning Tool Overview

**Early Warning:** A new data mining tool that uses statistical modeling with multiple years of data to predict a student's likelihood of graduating

# GRAD Score is based on Multitude of Indicators

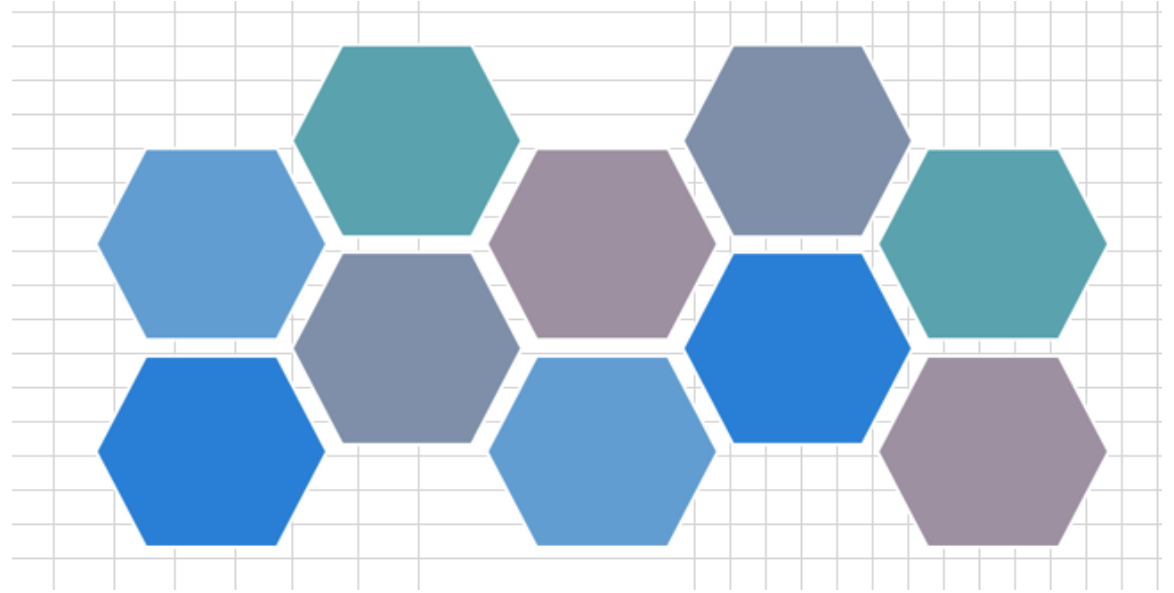
**Uses robust  
statistical  
modeling to  
determine  
likelihood of  
graduating**

Updated monthly based  
on any changes that  
occurred as reported in IC



# GRAD Score uses over 90 data points:

- **Attendance**
- **Behavior**
- **Enrollment**
- **Demographics**
- **Grades**
- **Standardized Tests**
- **Guardian Involvement**
- **Household Demographics**



	Examples
Attendance	Absences, tardies, unexcused, percentile rank...
Behavior	Behavior resolutions, suspension incidences, days...
Enrollment & Demographics	Homeless, migrant, gifted, grade, extra year primary, prior dropout, free/reduced lunch, special education...
Grades	Algebra, english, geometry (core subjects heavier weight), percentile, took the ACT...
Standardized Tests	EXPLORE, ACT composite, math PLAN score...
Guardian Involvement	Number of log in to parent portal
Household Demographics	Zip code, number in household...
School	School type (alternative, regular, etc.); Title 1...

# Power of the Early Warning Tool

## ► GRAD Score: (Graduation-Related Analytic Data)

- A single number indicates likelihood of graduating



Tailored to each unique environment (district and schools)



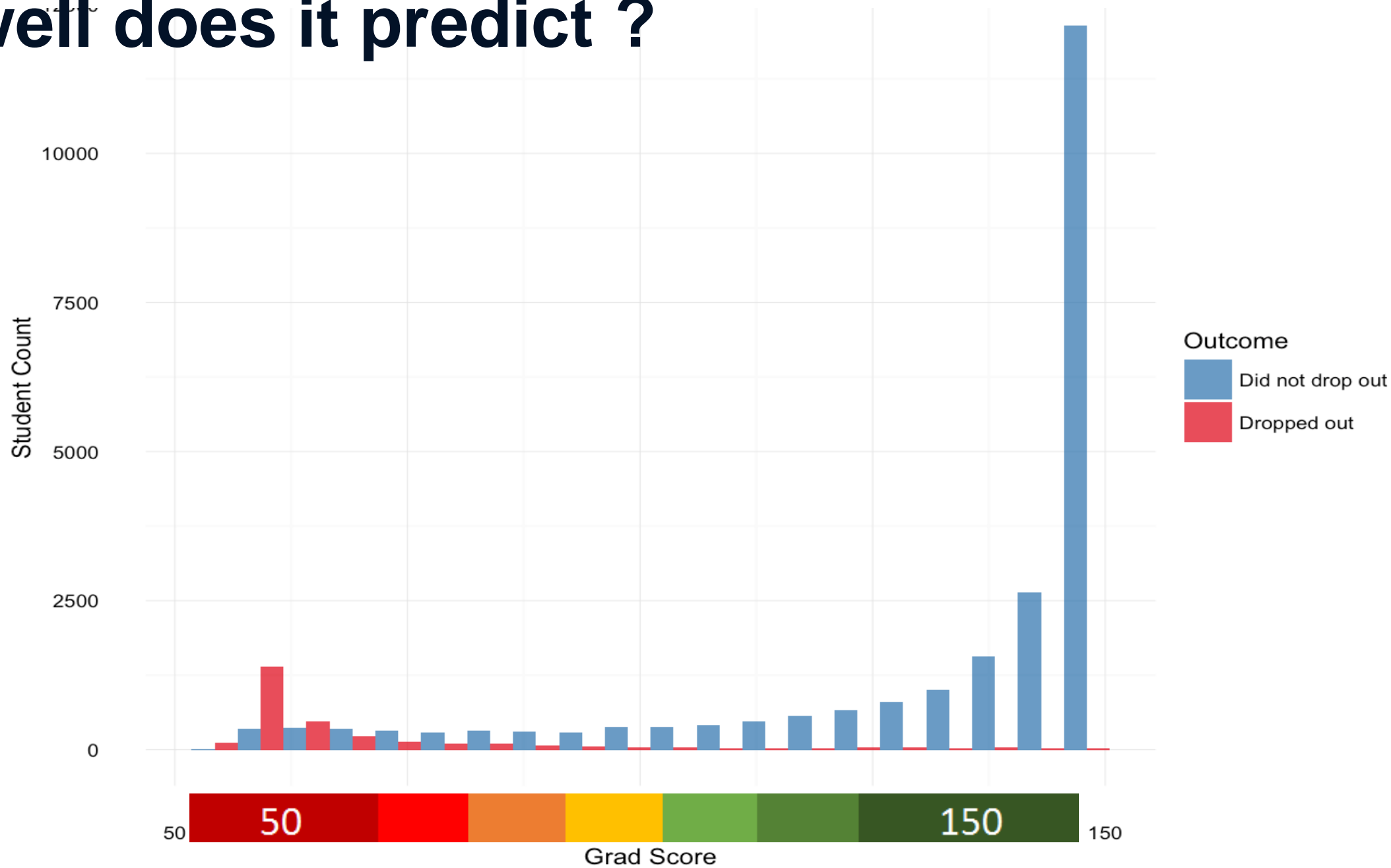
# Power of the Early Warning Tool



**Lower GRAD scores:**  
student has more risk  
factors shared with past  
students who dropped out.

**Higher GRAD scores:**  
student shares more  
factors with past students  
who have graduated

# How well does it predict ?

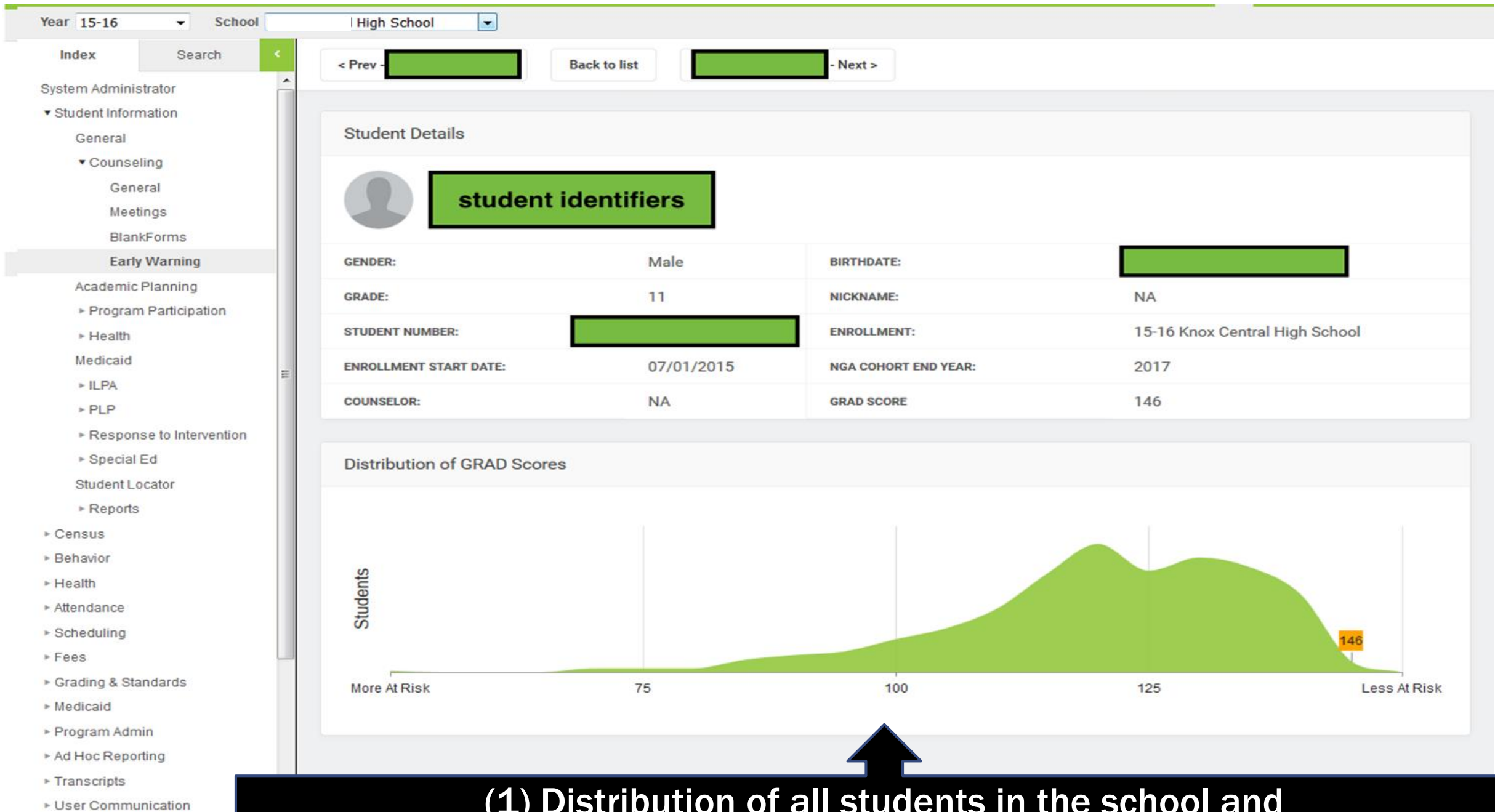


Filter: Ad Hoc:  

Grade:

Gender:

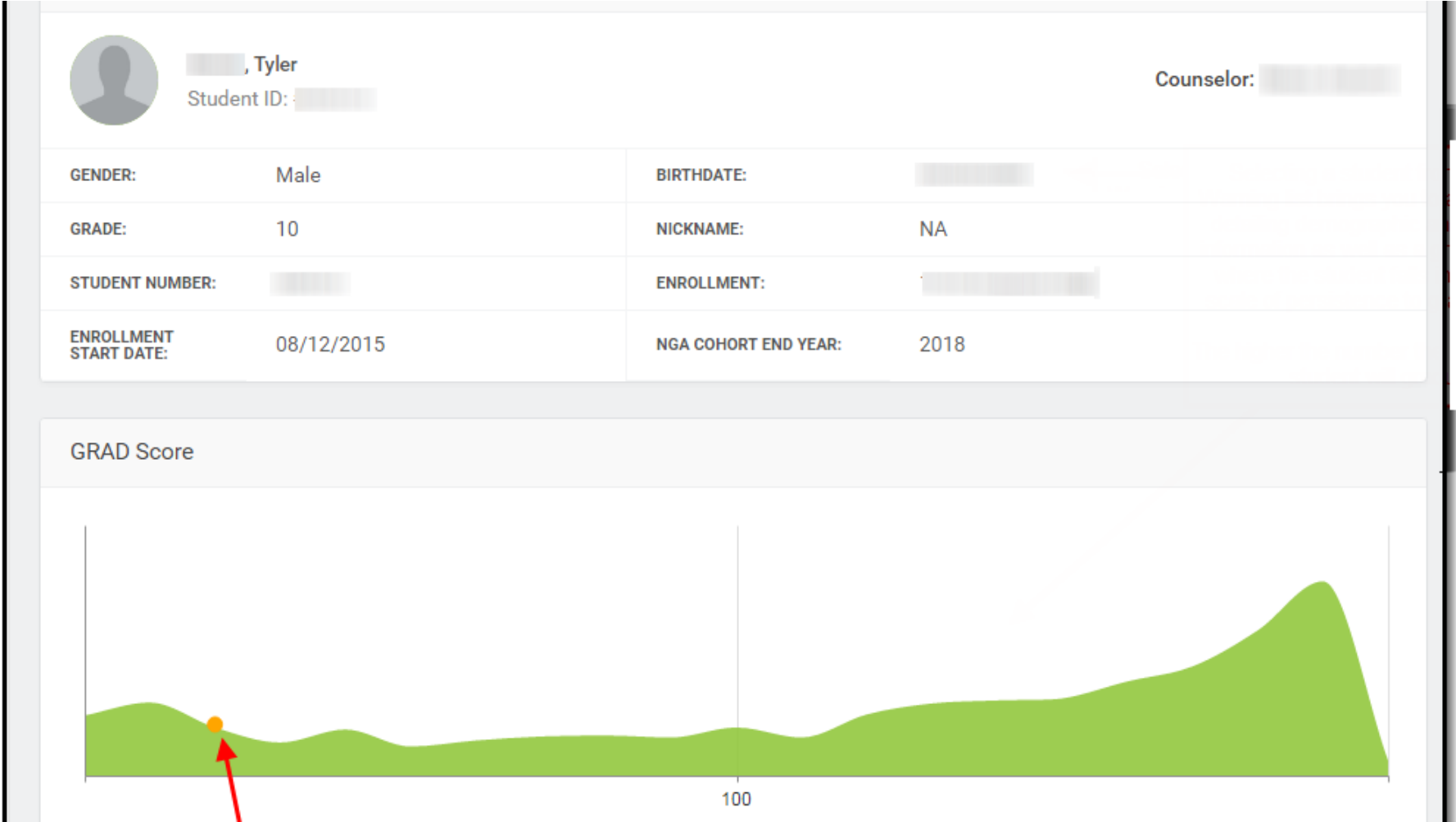
: Student Information						Student's + / - Score From Average				
WATCHLIST	FIRST NAME	LAST NAME ^	GENDER	GRADE	GRAD SCORE	SCHOOL 115	DISTRICT 132	STATE 121		
<input type="checkbox"/>	<div>student names</div>		M	09	113	- 2	- 19	- 8	^	
<input checked="" type="checkbox"/>			M	09	57	- 58	- 75	- 64		
<input type="checkbox"/>			M	11	96	- 19	- 36	- 25		
<input checked="" type="checkbox"/>			M	09	52	- 63	- 80	- 69		
<input type="checkbox"/>			M	09	104	- 11	- 28	- 17		
<input checked="" type="checkbox"/>			M	09	52	- 63	- 80	- 69		
<input checked="" type="checkbox"/>			M	11	92	- 23	- 40	- 29		
<input type="checkbox"/>			M	09	111	- 4	- 21	- 10		
<input checked="" type="checkbox"/>			M	09	87	- 28	- 45	- 34		
<input checked="" type="checkbox"/>			M	09	53	- 62	- 79	- 68		
<input type="checkbox"/>					M	09	133	+ 18	+ 1	+ 12



(1) Distribution of all students in the school and  
(2) where the student is compared to their peers in the school

- ▶ This student has a GRAD score of **63**.
- ▶ His score in comparison to peers is indicated by the **orange dot**.

A GRAD score so far left on the graph indicates that he is at high risk of dropping out



# Early Warning Cautions!



## ► GRAD score may show as not available when:

- Student could be new to the school/district (**records transfer**)
- Student may not have enough information available in the system to make a determination (1 full year required)

**Do not** dismiss students with no score (or 0 in PtG)

Include them in your list and look into each one.

## ► Accurate, timely data entry in IC is important!

# Early Warning Tool Strengths

- ▶ Incorporates multitude of data points using sophisticated statistical modeling – more sensitive and granular than the PtG tool.
- ▶ Visual dashboard allows you to view the entire school and where each individual student score is
- ▶ Can filter in IC, use adhoc groups in IC and create a watch list of students
- ▶ Takes into consideration school and district context
- ▶ Can be run anytime and by multiple users

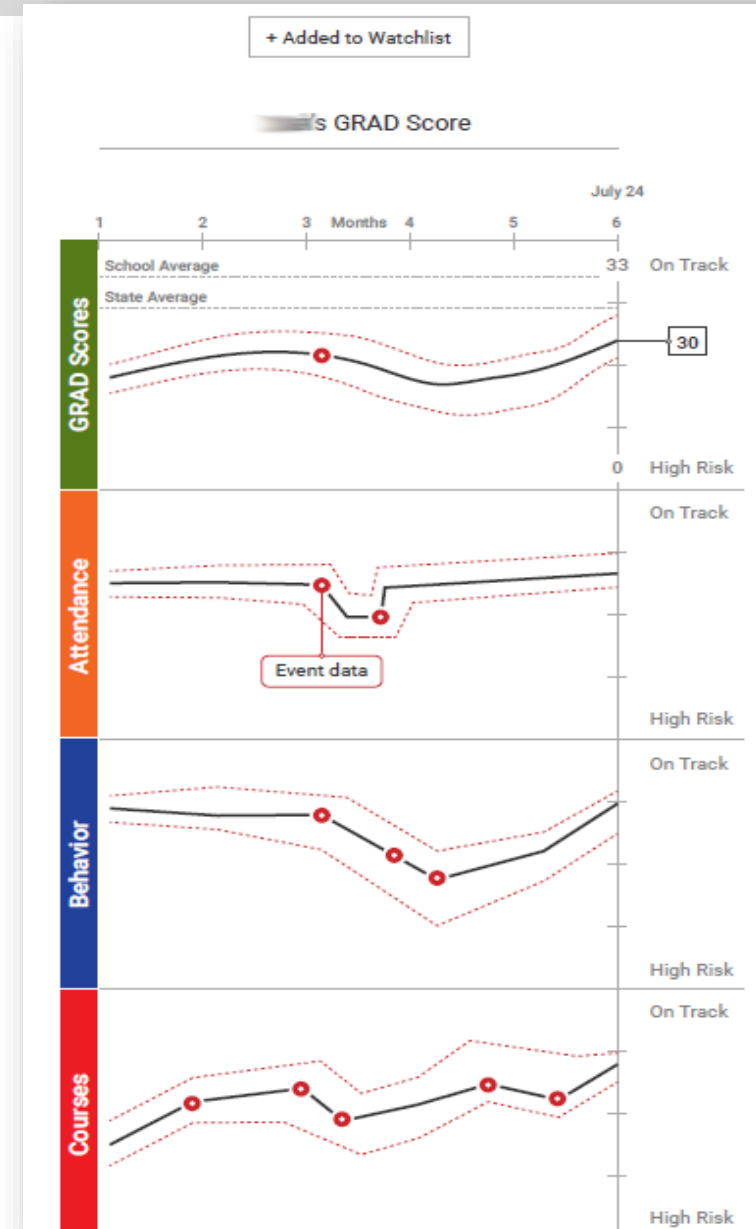
# Early Warning Tool **Limitations**

- ▶ Only available for high school
- ▶ Currently, students must have at least one year of prior data to have a score (transient students have high risk)
- ▶ Currently, the tool does not give specific factors (data points) that are contributing to GRAD Score
- ▶ Currently, no print function ... but GRAD score is in adhoc so you can pull score into that report



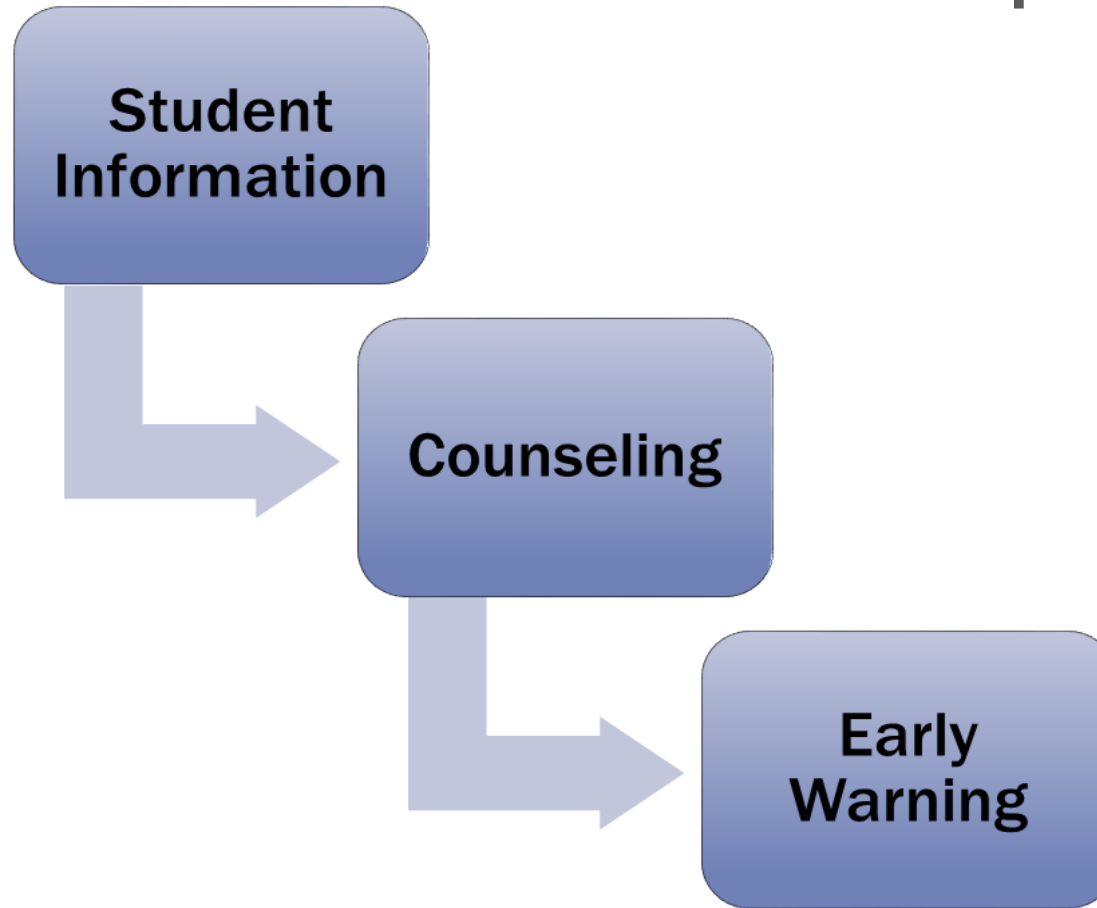
# Early Warning Developments to Come

- ▶ Will identify highest risk and protective factors on dashboard
- ▶ Include students in early grades



# How to Get to the Early Warning Tool

## Infinite Campus Path



*Note: All users need at least R(ead) tool rights to access the Early Warning screen & generate reports*

# Which Tool Should I Use?



- ▶ If you want specific data points around class failure, suspensions, and attendance and/or
  - ▶ If you are at the elementary or middle level
- ...use the Persistence to Graduation Tool**

- ▶ If you are in high school
  - ▶ Want to use a more sensitive tool with strong predictive power
- ...use the Early Warning Tool**

...and refer to data in the PtG report

# Careful with Comparisons!



**Many of the same students will appear on both reports, but the RISK score and the GRAD score will not be comparable as they are calculated differently.**

Component	Early Warning	Persistence to Graduation
Function	Uses statistical modeling to measure a student's dropout risk using historic data that is consistent regardless of environment and improves over time by learning from more data	Assigns every student a risk value score based on selected research-based indicators
Key Indicator	GRAD Score (Higher score is good)	Risk Value Score (Higher score is bad)
Available for	High School students *Lower grades to be added	Elementary, Middle & High School Students
User Friendly	(1) Graphic Display of student GRAD score compared to all peers and (2) Student lists you can sort with all key indicators	Two output options (PDF and CSV)

	Early Warning	Persistence to Graduation
<b>Data is Updated...</b>	Monthly-based on any changes	Daily – based on any changes
<b>Score Range</b>	50 -150 (Low Score = at risk to drop out)	0-24 (Low Score = not at risk to drop out) per data
<b>Data</b>	Uses over 90 indicators	Data indicators limited to behavior, grades, attendance
<b>IC PATHS</b>	Student Information → Counseling → Early Warning	KY state reporting → KDE Reports → Persistence to Graduation





# What will these tools NOT tell us?



# CAUTION

- ▶ DO NOT rely on these as your only tools!
- ▶ Neither tool evaluates graduation credit requirements at this time
- ▶ Other information you learn throughout the year that data can't reveal directly
- ▶ Don't forget protective factors & strengths!!!





# So Now What?

# Encourage use:

- ▶ Directors of Pupil Personnel (DPPs)
- ▶ District dropout prevention personnel
- ▶ Principals
- ▶ Counselors
- ▶ Special education administrators
- ▶ Family Resource Youth Service Center Coordinators (FRYSC)
- ▶ Teachers
- ▶ Behavior/academic coaches



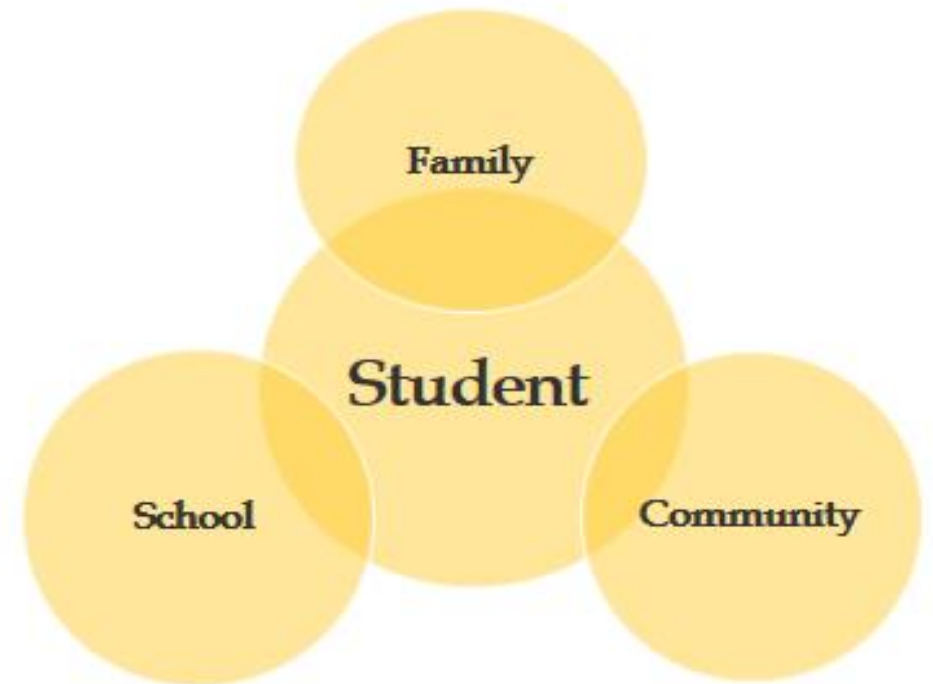
# Tools can be used...

- ▶ For **root cause** analysis
- ▶ To **intervene** early on
- ▶ To **determine appropriate supports** and **interventions** for students who may be off-track for graduation
- ▶ To support **positive reinforcement** for students who are on track



# Numerous Dropout Prevention Strategies, Programs, Approaches

- ▶ Interventions can occur in multiple areas:
  - Academic, social-emotional, basic needs, engagement, family, peers
- ▶ And multiple levels  
Individual, group/peer,  
school, family, community



# 15 Identified Effective Strategies

## Foundational Strategies

- School community collaboration
- Safe learning environments
- Systemic approach

## Early Intervention

- Family engagement
- Early literacy
- Early childhood education

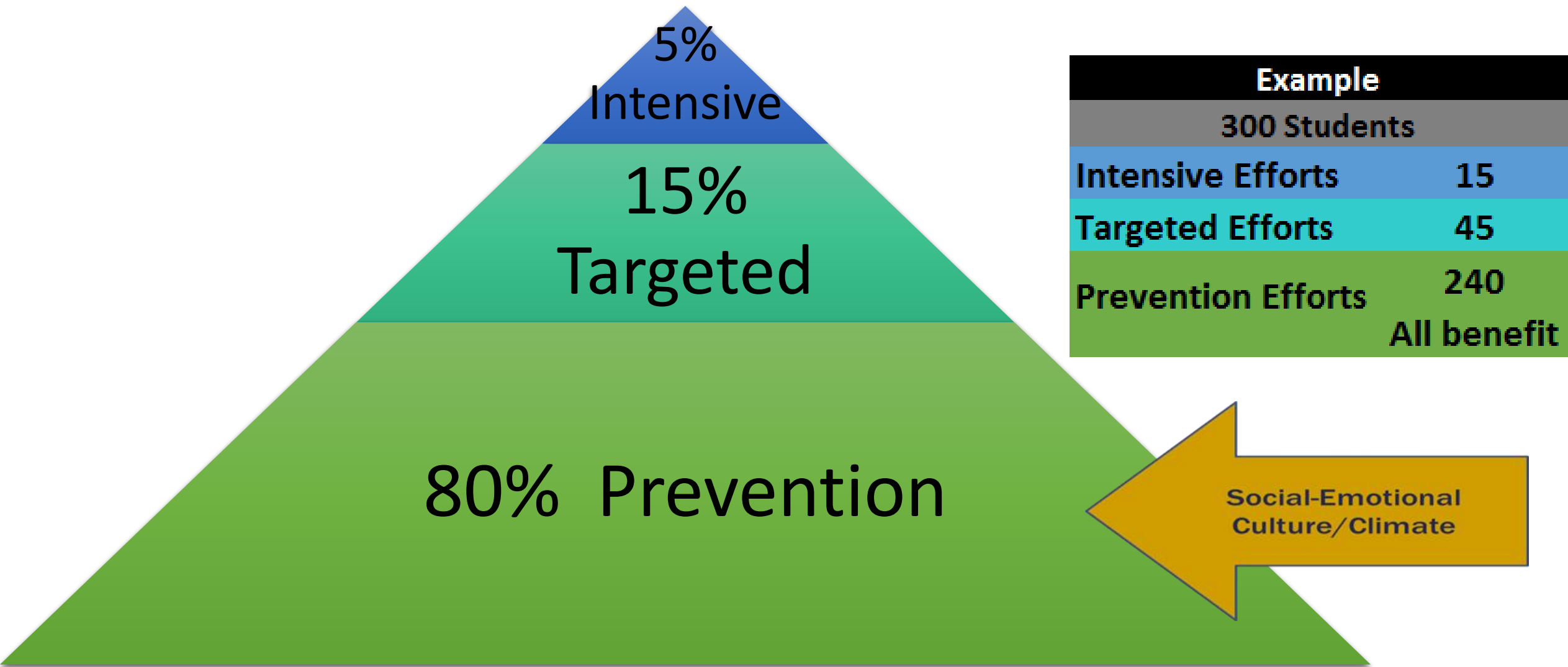
## Basic Core Strategies

- Mentoring
- Service-learning
- Alternative programs
- After school & out of school opportunities

## Improving Instruction

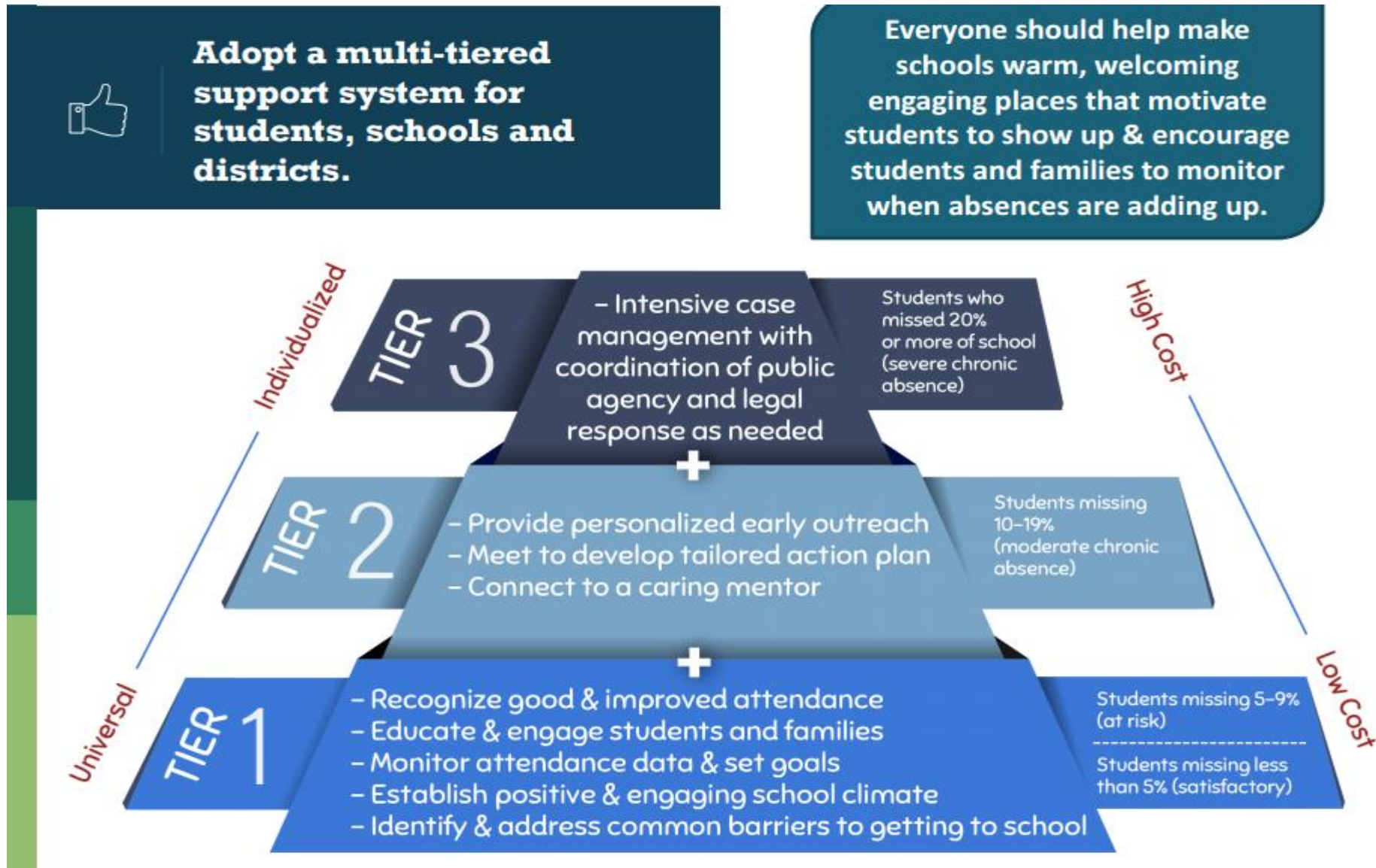
- Active learning
- Professional development
- Individual instruction
- Career & tech education
- Technology

Using data from watch lists (and other sources)  
...Designate all students into a tier  
...Use school wide, grade level teams, etc.





# Example of Tiered Approach for Students Struggling with Chronic Absenteeism



# So...WHAT WORKS










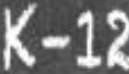





## The What Works Clearinghouse

IES :: WWC What Works Clearinghouse

Search Go

Select topics to **Find What Works** based on the evidence

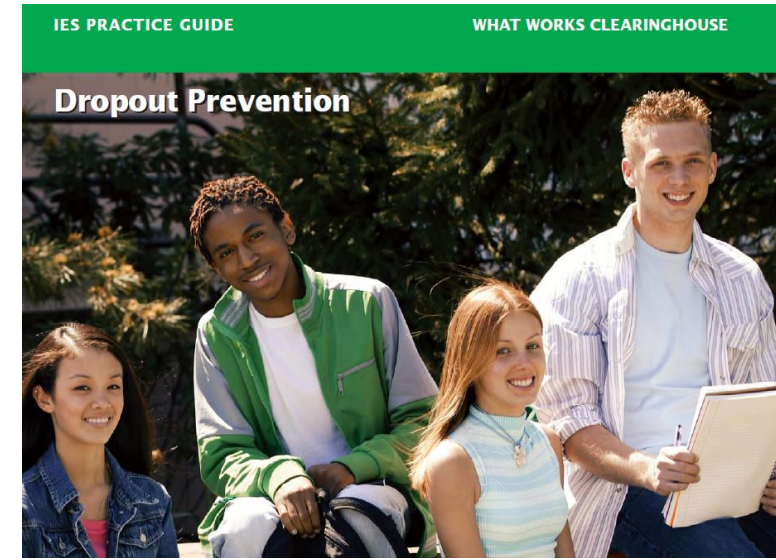
 Literacy	 Mathematics	 Science	 Behavior
 Children and Youth with Disabilities	 English Learners	 Teacher Excellence	 Schoolwide Programs
 Early Childhood (Pre-K)	 Kindergarten to 12th Grade	 Path to Graduation	 Postsecondary





# What Works Clearing House-Recommendations for Dropout Prevention: Practice Guide

1. Use data systems to identify students at risk of dropout (and monitor them)
2. **Assign an adult advocate to students at risk of dropout**
3. Provide targeted academic support and enrichment
4. Implement programs to improve behavior and social-emotional skills
5. Personalize the learning environment (school-wide)



**Students Mentoring  
Students (CO)**

[https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dp\\_pg\\_090308.pdf](https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dp_pg_090308.pdf)

<http://www.coloradoedinitiative.org/wp-content/uploads/2014/04/Students-Mentoring-Students-SMS-Curriculum.pdf>

# Key Resources

- National Dropout Prevention Center:

<http://dropoutprevention.org/>



- Regional Educational Laboratory

<http://www.relmidwest.org/newsroom/dropout-prevention-resources-and-events>

- Association for Career & Technical Education

<https://www.acteonline.org/general.aspx?id=795#.WDNSz4czV9M>



Dropout Prevention Resources and Events



KDE's Persistence to Graduation webpage for answers to questions and additional resources:

<http://education.ky.gov/educational/int/Pages/PersistenceToGraduation.aspx>

# Explore Live Survey & Interactive Assessment in the Classroom: FREE



[www.Plickers.Com](http://www.Plickers.Com)

## Engage ALL students in critical thinking

Give all students the chance to participate and engage in learning without feeling self-conscious.

*"The kids love it. I thought of it as a good data-collection tool, but my high school kids think it's a game."*  
- Susan Clark Russo, Math teacher



Since the Early Warning tool is in the process of development...

...and/or if you have insights into improvements for the PtG tool

we would love to get your

